



PROPERTY OF  
⇒☆DR JACK☆⇒  
CASE, **A** No. 26

# MY CHOLERA EXPERIENCES

BY

**JAMES DEATH,**

**FAIRVILLE,**

**NEW BRUNSWICK.**

---

I.—CHOLERA IN INDIA.

II.—CHOLERA IN EGYPT.

III.—THE PTOMAIN THEORY OF DISEASE—PREVENTITIVE  
REMEDIES—CHOLERA INFANTUM.

---

*RE-PRINTED FROM THE ST. JOHN DAILY SUN.*

---

ST. JOHN, N. B.:  
THE SUN PRINTING COMPANY (LIMITED), CANTERBURY STREET.  
1892.

Chemical Expert.

The writer of the within pamphlet was  
for some time Head Brewer for James Brady,  
Brewer of Fairville, but who after a few  
years in Mr Brady's employ returned I  
believe to England his native country.  
He was a man of much intelligence, &  
well read, but ~~rather~~ addicted to strong  
drinks.

Apr. 23rd 1900. D.R. Jack.

Mistake. He had lived in India &  
suffered Malaria.

R FOR REFERENCE

616.932

Dea

Adult

Safe

NOT TO BE TAKEN FROM THE ROOM

Acc. no. 587a +

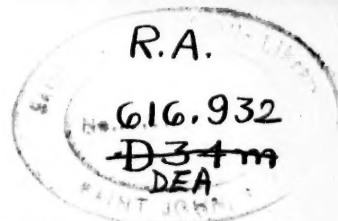
David R. Jack Request.

R. A.

Accession 587<sup>w</sup>

Class 616.93

D34m



# MY CHOLERA EXPERIENCES

BY

JAMES DEATH,

FAIRVILLE,

NEW BRUNSWICK.

---

I.—CHOLERA IN INDIA.

II.—CHOLERA IN EGYPT.

III.—THE PTOMAIN THEORY OF DISEASE—PREVENTITIVE  
REMEDIES—CHOLERA INFANTUM.

---

*RE-PRINTED FROM THE ST. JOHN DAILY SUN.*

---

ST. JOHN, N. B.:

THE SUN PRINTING COMPANY (LIMITED), CANTERBURY STREET.

1892.

587a

# My Cholera Experiences

---

## I.--CHOLERA IN INDIA.

---

Several years ago I was engaged in India, brewing for the Anglo-Indian troops in the Deccan; the proprietor of the brewery was absent on ill health, I was left in charge of over one hundred and forty five native laborers, coopers, carpenters, iron fitters and stone masons. With the exception of the architect's clerk, there was not a white man to be found for several miles. A government brewing contract was on hand; building, though behindhand was satisfactorily progressing, when one well to be remembered afternoon, my interpreter, a bright young Mahratta, said: "Sahib, another cooper just gone ill." These coopers and carpenters were not Mahrattas as were the other native workmen, they were high caste Hindoos; some few were Punjaubees, but the majority were Sikhs. Coopers did not exist in India fifty years ago, the establishment of breweries consequent on the fall in the value of silver created coopers as a section of the carpenter caste: these men were thoroughly reliable, they were specially brought down from the Punjab, a country as far distant as is Detroit from St. John; their dress, their dialect and their race were distinct from those of the other workmen. Though now the most loyal of Indian subjects, they were of that race, who, not a generation previously had strained to its utmost the power of the British forces in India. I had received special instructions from the proprietor to leave these men alone; they were reliable, their foreman possessed some religious in-

fluence over them; in all they numbered between fifty and sixty. These Sikhs, some three Mahrattas, the architect's clerk and myself constituted the local population living upon our own estate, the workmen living in outside villages. Towards evening a few words addressed to my interpreter in Hindustani evidently perturbed even his Oriental, expressionless face, "What does he say?" I asked—"Sahib, one cooper dead, one cooper very sick, another cooper just ill." "Fetch me the foreman,"—from him I could get no information. I satisfied myself that one man was dead, that two men were dying, but of what I could not say. Accordingly I drove into the neighboring military cantonment to ask as a favor that one of the regimental doctors would come over quickly, no other doctor was to be found within eight miles. The doctor arrived. We visited the dead and dying. "What is it, doctor?" I asked. "Well, its cholera, and that, too, of a malignant type, and I don't think, Mr. Death, that you've got sufficient experience of this country, situate as you are, to meet this emergency. I know these fellows well; they are not like the local natives, they are quiet enough now, but let them lose several more, as is most probable, and you will have a rebellion. Keep on moving yourself about amongst them, send for troops if necessary, but don't on any account leave the premises yourself." A few hours afterward a letter arrived from the doctor—more misfortune—he was confined to his own house away from barracks by his colonel; he was forbidden to enter our



premises also, but he sent medicine and the course of treatment I was to adopt. Next day brought further disaster; three Sikhs were dead, others were evidently dying, and a military guard was placed upon the river bridge to prevent the Sikhs entering the cantonment. The Sikhs had money and insisted on going back to their homes, to lose them was fatal to our building operations; the terrified creatures were under the belief that "a devil was on our premises; he had put his foot on their neck"—so they said—"and they died;" return to their homes they insisted upon, hence I at once went to the Great Indian Peninsular station and put an interdict on their travelling. News travels mysteriously and quickly in the east; even before my return from the station every Sikh knew what had been done.

The disease took strong hold of these simple-minded, frightened creatures; they may never have seen it before in their native province, although it occasionally troubles Lahore, and the death of each man appeared to them a mystery. To show the frightful rapidity which cholera in its acutest stage progresses at, the following will suffice: Every morning I made an inspection of the huts. A Sikh first entered and prepared for my arrival; it was necessary to remove all cooking and drinking vessels from contact with a Christian; I have seen a dying native in almost the last agony of cholera endeavor to rise to prevent my shadow contaminating his copper water vessel;—it became necessary to purchase some antiseptics, at eight o'clock I left for the city of Poona, at three in the afternoon I returned, to find that my attendant was a heap of ashes; he had been attacked at eight, he died about noon; the corpse was wrapped in new calico and burnt according to the Hindoo custom at the river side; the four cords of worsted surrounding the few still smoking embers of his funeral pyre alone remained to mark the existence of my attendant of that morning. Sixty years ago, before the abolition of Suttee by the British government, that man's liv-

ing wife would have been tied to his body and both would have been burnt. If only for the abolition, or rather partial abolition of this custom, for it still secretly exists, the mild despotism of the British rule in India will have proved a blessing to millions.

The condition of affairs on the estate was getting desperate, a panic prevailed amongst the Sikhs—they cried, they scowled at me, what they actually said I did not know, they refused to work (this latter was an especially bad feature, their unoccupied minds were prone to mischief:)—I, in turn refused them wood for their funeral rites; this compelled them to cut it and so occupy their attention. Although it was undoubtedly dangerous to leave decomposing bodies about the place, firmness was necessary and this occupation tended to prevent the open outbreak of mutiny. How many men were really attacked I do not know, they suppressed some of the cases from me, about ten died, almost the whole of them frightened themselves into believing that they had it. The authorities were meanwhile watching events; "if you only get them to take brandy, things would right themselves" said a personal friend to me. "With our Mahrattas it would be easy, but those infernal sikhs are so high caste, they would die sooner than pollute themselves." "Well I'll have a try," I replied, "Dutch courage is what they want"—"You'll never get them to take Christian drink," said another;—Next morning, accordingly, I tried to induce them to take brandy and camphor. Every one positively refused. All were sullen, scowling and dangerous. None would even hold my drinking vessel. I left the bottle in one of their huts—but terror and persuasion had done its work; an hour later my interpreter called upon me with the astonishing and pleasing news that the Sikhs were wanting to see me (the first time by the way that they had ever done so); they were asking for more brandy. Telling my interpreter that I was offended,

I would not come, I staid in my bungalow. Half an hour elapsed when in all humility entered the chief of the caste accompanied by the interpreter. Would the sahib come and speak to his men; they would work if he gave all of them some brandy? Some of them had tasted it, they told the others that the evil spirit was gone, all of them wanted to do the same. Here was the opportunity, and I embraced it: "Call your men together; in a few minutes I will see them." On leaving the bungalow the change which had occurred was noticeable, the dull, dark scowl had vanished, hope once more had entered their souls; they gathered round me, talking quickly, pointing at the same time to several of their comrades who evidently had been the fortunate householders of the hut where I had left the bottle. Brandy and camphor had pretty well changed their theological views about the local devil. These men were courageous, they defied disease, and they called on the others to do the same—there was no desire for stimulant in men who had never yet tasted alcohol in the whole of their existence—life seemed once more before them if they could but drink that medium which had made the others so courageous. "Give us brandy," was their one supplication—"we will work by night and by day if you will save our lives"—then in the very sternest tones of reproof I told them that not only myself, but the great sahib (the proprietor) was offended—why should I give them anything? They had disobeyed, they would not work, their huts were not cleaned, my sanitary rules were disobeyed; they deserved to die. The interpreter ceased, and a cry of alarm, supplication and disappointment went up—a sharp interrogative to the interpreter, who for once spoke the truth, elicited that they were submissive. With a further reproof, a promise that they would work after they had immediately burnt their dead and had made an offering to some angry God of an oblation consisting of the white man's bread,

wine and cigar floated upon the river, I gave brandy and camphor to as many as would take it. Even then several declined to pollute themselves. But the terror was past, the evil spirit had been banished, their superstition was qualmed, fear vanished and the disease practically ceased; they resumed work, worked well and never again asked for brandy; but two months later the whole of them left to journey some 1200 miles to purge themselves by crawling on their hands and knees, as I subsequently learned, to some temple, and, of course, to pay the Brahmin. In their condition of outcasts, their own wives would refuse to recognize them.

One feels a sensation of pity, to see such a noble race of men, as were these Sikhs, for they are one of the finest races of India, lay down mysteriously one after another, to vomit and to die. Pity and sorrow are foolish in an emergency; stern, strong, and instant action, however arbitrary or non-sentimental, is necessary, especially so amongst Orientals—and it saved their lives. Throughout this essay the western reader may notice an arrogance of manner such as would not be tolerated on this continent—it is the custom in the east—the natives expect it; pusillanimity never made the wonderful empire of England in the east. The advice given me to keep constantly amongst the semi-mutinous Sikhs was not without good reason. Ignorance of the Hindustani language prevented me fully knowing what was going on around—I had a strong suspicion, but not until some time had afterwards transpired, was I fully told that in the knife, and not in the cholera, lay the danger to myself.

The woodworkers resumed work, building was satisfactorily progressing, when a few days later in came my interpreter, "Sahib, stone mason, very sick, very bad indeed." Here was a new development—this was a Mahratta, none of whom lived (as did the Sikhs) upon the estate; if he died in the compound,



I should lose the masons, ironsmiths, laborers, etc. Were my troubles to be revived? A moment's glance at the unfortunate sufferer who lay writhing on the grass convinced me that this was an extreme case, he could not possibly survive, and die upon the premises I was determined he should not. I gave him a larger quantity than I had yet employed of an opiate to assuage the terrible agony of his last hours—nothing further could humanity do.

The military guard stopped the roadway only against the Sikhs, not against the Mahrattas, hence I risked the tremendous responsibility of smuggling this dying man through a military guard. His mother wanted him home. She believed that he could never recover on such an accursed spot as was our estate. Diplomacy was necessary. I replied to her, 'I refuse to let him go.' Orientals study the face and the tone of voice more than the words. (In the Hindustani language the interrogative and the command are identical). My interpreter knew what was in my mind, and probably interpreted what he knew was welcome to me. "His mother insists on taking him away," said he. As a fact she never dared to say such a thing to me. I well knew, as I was afterwards sharply told, that as a European manager I was far more than a magistrate. I conceded and even urged his departure by lending our hay cart with some hay for him to lie upon. He will pass the guard, thought I, he must die, and he will then be burnt in one of the numerous little villages surrounding our estate and there the matter will cease. Little did I dream of where he was going to die, nor of the importance of the result. He left the place. (The later stages of collapse usual to extreme cholera had already set in), he passed the military guard without difficulty, and the next intelligence that I heard, was, that he had died within two hundred yards of the barracks at Kirkee, the health station of India, where a case of cholera had not oc-

curred for three years, and where two regiments of troops were stationed on health probation, one about to start for the Burmese war, the other awaiting transport to England as time-expired men. Over the details of the *mauvais quart d'heure* which I subsequently passed with Lieut. Colonel — I will purposely draw a veil. No fear of cholera which I might ever feel will in any way equal the terrors of that awful interview. The soldiers were confined to barrack, and loudly they cursed me, too; the transportation of troops was deferred, and I found that I had committed an offence which might consign me to Poona prison. This death, fortunately for all, proved to be the solitary one. Every precaution was taken to avoid the disease spreading, but I was not a *persona grata* to the military authorities by any means.

The course of cholera upon Sikhs and Purjubees seemed to me to be different to that on other races; the Sikhs apparently died without intense agony, they were prostrated, they vomited the usual porridge colored matter, etc., etc., cramps and a cold pallor seized them, they became weaker, exhaustion set in, then complete collapse and finally death, but I never heard any of them groan or exhibit any symptom of pain—perhaps it may have been the stolidness of this splendid race of men. The Mahratta and Egyptians showed great suffering; the body was contorted, the face denoted pain, loud and deep groans with shivering fits showed the terrible agony of their death struggle. Cholera in Europeans I have never seen.

In India, cholera is endemic. Europeans do not alarm themselves about it, not more in fact than do people about scarlet fever here; they simply avoid streets known to be infected and pay attention to the water supply. Cholera in the army, although not by any means so frequent or so pernicious as in the olden days, is still a serious matter. The enforced idle life of the soldier induces him to too largely concentrate his

thoughts on this fear inspiring subject. Amongst the two hundred and eighty-four million natives of India (controlled, marvellous spectacle! by astute diplomacy and a little English army of sixty or seventy thousand men) the disease is frequent and slays its tens of thousands; the routes of pilgrimage to sacred cities, idols, etc., are specially affected: this feature also holds good in other countries, the continuous stream of pilgrimages to the Kaaba and the shrine of Mahomet at Mecca, makes its seaport, Jeddah, the distributing focus of cholera throughout Islamism in the east.

The wages paid to workmen in India may be of interest; they were as follows: Laborers (coolies), \$3 per month; iron fitters (riveters, drillers and filers), \$5 to \$5.50 per month, a good workman commanded \$7 to \$8, while \$8 to \$9 commanded a sub foreman. Stonemasons and bricklayers were paid \$6 to \$8 per month; these were the entire payments, no extras such as board or lodging was given them. Hours of working from 7 to 5 or 6 (I forget which.) The coopers, who were also carpenters, obtained \$12 per month as well as the huts they lived in, upon the estate; the foreman got \$17. What price was paid to Mahratta carpenters I do not know; our own Sikhs would not work alongside of Mahratta carpenters. In Bombay and the cities, labor is much dearer than in the country; our rate of \$3 per month was a fair one. Coolies work for Europeans in preference to native employers. I should add that at religious festivals native laborers cannot be got to work at all. Between harvests and in dull times many laborers earn money by the bounty on snakes (the terribly deadly cobra is the common snake of India). Europeans allege that they kill and breed them as well; in India the government returns show an annual mortality of from 18,000 to 20,000 human lives destroyed by snakes per annum. About one hundred small cotton mills are located in Bombay, chiefly owned by Parsees; the

appallingly small rate of wages paid to the women workers is now justly occupying the attention of the government. Amongst the natives themselves in the country districts, coined money is not used; payment is made by barter and by silver rings, anklets, bracelets, etc., the work of the numerous and expert native jewellers who abound everywhere. With silver continually falling in price, and English importers paying gold to the States and Canada for wheat, whilst the importer pays silver and rings, etc., to the Indian ryot (peasant farmer), the Indian export wheat trade (which was unknown in 1870) had arrived in the year 1890 at an amount almost equal to that of the United States. This feature of the Indian ryot accepting ornamental silver in payment for wheat, the continual fall in the value of silver, and the enormous absorptive power of India to take more silver in payment of wheat for export, constitutes the gravest danger which menaces Manitoba and the western states.

Twenty years of beneficent Anglo-Indian rule has altered the face of India and the markets of the world. Wheat owes its fall in value to the products of the two or three annual harvests in the valleys of the Indus and the sacred Ganges. Cotton quoted at seven instead of seventeen cents per pound in New Orleans finds its chief competitor in the fibre grown under British rule in India and latterly in Egypt. England no longer holds her markets in the cotton cloths of the East, the Bombay mills supply India, China and the Straits settlements with all but the finer varieties. China teas are fast being ousted by those of India, Assam and Ceylon. Peru finds that in quinine and cinchonine it is no longer the sole gardener of the world. Hundreds of times on this continent have I been reminded of the future glories of the West; the child is but the father of the man: India awakening from her sleep of centuries is the growing infant of the East.

## II.--CHOLERA IN EGYPT.

---

I was residing in London when a telegram from Paris requesting my attendance at a shareholders' meeting of the French brewery of Egypt was handed in. Like many other Franco-Egyptian enterprises launched when loans were easily raised, the establishment was non-remunerative, now that Egyptian credit was nil. I was asked to see whether the non-paying lager brewery could not be made to pay as an ale brewery, now that the English army was established in Egypt. The affair was next to a hopeless task from the first; prohibitive duties on raw material, as I afterwards found, was one of the chief items against its success. The ice plant was old and almost useless, I agreed to undertake its management for a short period. The concern has now been closed for several years.

Some time after my arrival, my old enemy cholera broke out, and terrible havoc it played, too, amongst the fellaheen. Cairo was then the most evil smelling city in the world: the French portion, situate in its centre, was well paved and clean, but outside this small aristocratic centre, filth abounded. It is impossible to describe in your columns the beastlines of Cairo (and I use this phrase with deliberately considered meaning). In the poorer quarters the street dogs and the crows were the only scavengers; in the surrounding villages the hogs performed a similar service. When one sees in eastern cities the offal, the carrion, etc., thrown to the dogs to be devoured, the insult to an Oriental Queen conveyed in the

sentence, "and the body of Jezebel was thrown to the dogs" becomes apparent.

On the outbreak of cholera I determined to leave it severely alone; this, however, is a resolve which employers of labor find difficult to fulfil. Exceptional difficulties existed in my case. Workmen in a brewery, each trained to do his own work, cannot easily be replaced. The question of languages alone, quite independently of the new hands ignorance of working requirements and of the appliances of the building, compelled me to take precautions to preserve my working staff as far as possible intact. The Egyptian fellaheen is a different laborer to the Hindoo; the former plays truant and wants constant supervision and looking after; the latter conscientiously, although slowly, does his work; cholera consequently became an excuse for a day or an afternoon off—some of my men must have had the afternoon or daily form of disease some seven or eight times and yet appeared with a cheerful countenance the next day.

I was the only Englishman upon the premises (and the name of England was then hated with a deep intensity by every one of the mixed nationalities which populate Cairo), dissensions in the establishment were rife, not a single man could I rely upon; hence I was reluctantly compelled to look after the truants at their own houses. Frequently with Oriental cunning and excuses I have been purposely deceived by being shown into other houses, sometimes to cover deceit, sometimes to give *backsheesh*—that

ever present form of importunate begging, to some one sick of disease, no matter what sort. Tourists recollect their experiences of Cairo by memories of the Pyramids, the tombs of the Khalifs (those unique marvels of beauty) the innumerable Mosques, the return of the sacred carpet from Mahomet's tomb, and the art in brass, damask and needle work displayed in the bazaars. I very vividly recollect, in addition, my visits to some of the lowest slums of the city. The stopping of wages was *un dernier resort*. A box on the ear was frequently given by the engineer to his ice machine men, the people had been used to the lash and courbash for centuries, such was mild treatment and was unnoticeable, but touch their religious fanaticism, or their wages, and a storm might be provoked—and I was strange to the habits of the people—not easy to allay. Eventually I was compelled to this course in truant cases and it proved successful. To exhibit Eastern character, let me give two instances. At some periods there was a mere handful of British bayonets in the city, yet revolt was quelled by one circumstance; there happened to be an exceptionally holy mosque in Cairo, the natives were led to believe that a cannon at the Citadel was constantly pointed at this venerable, thought somewhat dilapidated structure, and on the slightest sign of revolt the British army would blow it to pieces.—British policy is of course far too astute, it preserves, not destroys, sanctuaries; the destruction of a single one is a memory to entail centuries of bitterness and regret. The other instance relates to manufacturing; I had to regulate the hour of brewing according to sunrise; the muezzin sounded from the minaret "to prayers"; and as the Orb of day appeared above the horizon, every Mahomedan on the premises knelt upon his carpet with forehead and knees bended in adoration to the east. "Allah Akbar; God is great; there is but one God, and Mahomed is his prophet."

In these hunting expeditions after the

men I came across several sad cases of disease. Only two of my men died, and I never troubled about doctoring them. I had given some money and goods to the widows of the two dead men, when it was announced that Riki, a Greek Egyptian, was ill. Now, Riki was one of the very few natives on the place who understood a little French, and as orders given by myself in decidedly bad French had to be interpreted from French into Arabic (the native language), the three or four men who understood French and Arabic were very useful. Riki was also civil, obliging, and was not worse at thieving than the rest of the men; he was a little bit of a favorite, so I promptly called on him to render such assistance as lay in my power. Riki was on the bed groaning with pain, but there was an absence of the sunken eyes and withered face with which I was too familiar. A suspicious odor of recently smoked Hasheesh also floated in the atmosphere, while his breath had a smell decidedly suggestive of mastic, the favorite Greek cordial.

"Etez-vous bien malade?" I asked suspiciously.

"Eh, oui, oui, monsieur."

"Le cholere!" I rejoined.

"Oui—Donnez-moi de l'argent, monsieur, un franc."

That settled it; two whacks from the stick which it is necessary to carry to overawe the street dogs and Riki promptly vanished through the doorway. An hour later he was highly busy polishing the refrigerator.

About 150 funerals passed the door every day, the weeping and shrieking of the wailing women—and in Egypt wailing women are paid to weep—became excessively monotonous. The reader will smile at the idea of the paid mourners; my own countrymen employ "mutes." The practice is directly opposite to the Egyptian custom, the Canadian must decide for himself which is the most or least sensible. Mutes are unknown in this country, hence, by way of

parenthesis, I interrupt my narrative to describe the comical side of English funerals. A seedy looking individual, usually with a very red nose, dressed in black garments, which like their owner have seen better days, stands at 'order arms' holding a broom-like arrangement dressed up in black; two of these human ornaments are necessary—one on either side of the door. There they stand on 'sentry-go' for two or three hours before the funeral, frequently worked up to a pitch of intense and suppressed excitement by little boys asking impertinent questions and offering suggestive remarks. This beautiful spectacle of grief at a shilling an hour is dying out in England. A generation hence the loss of this fine old custom will be regretfully mourned and laughed at; in this country it seems to be unknown. It would become expensive here; at sixteen degrees below zero the red noses would want frequent refreshing round the corner, and this isn't respectable at a funeral. One more observation before I resume; the Egyptians do not bury the coffin; they employ a three sided box covered over with cloth to carry the dead, the box is conveyed by hand to the grave. Although anxious to see a Mahomedan funeral, I never dared venture near to the grave; in Mahomedan countries, where fanaticism reigns, care is necessary. A Christian leisurely handling some books at a street library in the bazaar, is suddenly beaten, stamped upon and stoned by a howling mob; the unfortunate man had touched (defiled) the sacred Koran. Similarly with the Hindoos, I once took a sample of rice out of a bag,—the man instantly threw it into the street, a crowd began to collect, and I was only too happy to pay a few annas for feeding the neighborhood's fowls.

The brewery proved extremely useful to the better class of inhabitants and to the British army. The Nile water is very bad in quality and of a peculiar eruptive character, even bathing in it produces blains and boils; filtered water alone is used by the bet-

ter classes and this in its turn is re-filtered through the natives chattees. Brewing is proverbially a profitable occupation, but its profits fade into absolute insignificance when compared with those of selling boiled water. The English army demanded it. I controlled the only brewery in Egypt and night and day I was boiling and refrigerating water and making ice from boiled water with Pictets antiquated machinery. The water, sent out in pitched lager beer casks, was eagerly bought by wealthy Pashas, Beys and by the Europeans; that its sterilization by boiling saved scores of lives I have little doubt.

Enough has been written to show, even from this limited experience, how cholera disturbs trade; in a western country such a disturbance would be magnified intensely. I sincerely hope that I have seen the last of it; it upsets the harmony of manufacturing, everything wants re-arranging; one goes to bed with the feeling that tomorrow may bring worry and trouble about some unexpected detail. It always disorganizes the workmen. My experiences may sound strange and novel to western readers, but any of the not over-numerous manufacturers in the east would say they are only common occurrences, the exceptional feature was getting high caste Sikhs to break their caste. The one solitary satisfaction that I have gained from the disease has been, that indirectly it became the means of an introduction to native rulers and enabled me to witness some of those displays of oriental magnificence which constitute a part of the fascination of the east.

The reader will trace many points of resemblance in the narrative to those he reads of in the newspapers. In Russia the disease is regarded by the semi-oriental ignorant peasantry as a mystery, a species of witchcraft; the doctors are accused as instigators, poisoners, etc. If the history of the east is studied, how much of it is not evolved from hidden and terror-striking

plague? In the Bible their influence is frequent and notable. The disaster to the host of Sennacherib, when opposing the allied forces of Hezekiah, Tirhakah and Shabaco, near Pelusium in, 710 B. C., and immortalized by Byron's magnificent ode,

"The Assyrian came down like a wolf on the fold,"

may have been the result of pestilence, or of the engulfing of Sennacherib's army in the Serbonnean Bog. A similar disaster befell the army of Artaxerxes, the Persian, two hundred years later. The occurrence of plagues has also commenced the birth of nations. For over three thousand years, and to the present day, the superbly beautiful commemorative ritual of the passover has annually told the deliverance of the Hebrews from a pestilence which was the means of founding Israel as a nation, and which paralyzed the power of Meneptah,

the conqueror of Lybia, the son of Rameses the Great.

One only kid, one only kid (God's selected people) which my father (Jehovah) bought for two zuzim the Mosaic Tablets).  
One only kid, one only kid.

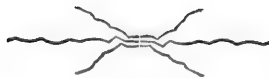
And a cat (Babylon) came and devoured the kid which my father bought for two zuzim.  
One only kid, one only kid.

And a dog (Persia destroyed Babylon) came and killed the cat, which devoured the kid, which my father bought for two zuzim.

One only kid, one only kid.

And a stick (Greece the conqueror of Persia) came and smote the dog, which killed the cat which devoured the kid, which my father bought for two zuzim.  
One only kid, one only kid.

And a fire (Ancient Rome the conqueror of Greece) came and burned the stick, which smote the dog, which killed the cat, which devoured the kid, which my father bought for two zuzim.  
One only kid, one only kid, etc., etc.





### III.--THE PTOMAINES THEORY OF DISEASE--PREVENTITIVE REMEDIES--CHOLERA INFANTUM.

---

What causes disease? In ancient times the infliction of pestilences was attributed to evil spirits; later on, to some offended deity—still later, magicians and witches were alleged to curse a nation. Faith in 'the divinity which doth hedge a king' has cured many from the fright which contributes four-fifths to a pestilence—that very undivine monarch, Charles the Second, was "touched" by thousands of believers and so scared away the demon of panic. Our forefathers of a recent period attributed disease to a variety of causes—meteorological and astronomical (storms, comets, etc.), but chiefly to air, food and water. Within the last thirty years the germ theory has been firmly established; the doctrine that the higher life of animals in many contagious and infectious diseases is destroyed by germs (aggregations of the minutest and lowest forms of life) is now universally accepted amongst men and women with the slightest pretense to education. The germ theory teaches that every infectious disease is produced from the growth of living organisms so infinitely small, that ten thousand germs of the largest varieties placed end to end would be required to reach one-eighth of an inch, these germs are supposed to be conveyed into the system in various ways; by drinking water as in the case of cholera and typhoid fever; by contact with the blood or open wounds, as in the instance of gangrene (hospital fever); from the inoculation of cuts, etc., as occurs with anthrax (wool sorters disease) or by contact of the germ

with the outer skin of a healthy person, as occurs with the dried up scales, or peeling of the skin in smallpox; this latter is frequently known as the graft system of disease. Germs multiply with excessive rapidity; some of the bacteria grow and reproduce their species in a quarter of an hour. Some of them dry up, retaining life for twelve months; others encyst themselves by sexual conjugation, the cyst on bursting scatters spores,—countless as are the stars in the milky way. It was once believed that the direful effect of cholera germs was due to lesion of the intestines, in other words, the germ eat away or honeycombed the membrane, so causing pain and death.

Within the last five years, scientists of an advanced school have recognized that typhoid fever, cholera, etc., was not due directly to the action of the germ, but to an animal poison produced by the germ. Hence has arisen the ptomaine theory of disease. Medical authorities require further proof before conclusively accepting this theory. Dr. Osler, author of the *Principles and Practices of Medicine*, dated 1892, says:

"It is quite possible that the leucomaines (a classification term), the basic substances formed in the living body, may under certain circumstances be capable of producing disease. Products also of the bacterial decomposition in the intestines may be absorbed and act as poisons. Our knowledge on these points is as yet scanty and uncertain. A suggestive chapter upon the subject is to be found in the work of Vaughan and Novy upon *Ptomaines and Leucomaines*. Lea Brothers, publishers, Philadelphia."

The ptomaine theory is of such recent origin, that it is as yet seldom heard of

outside of the medical profession, biologists, analytical and scientific chemists. It maintains that the germ, probably during its multiplication, produces a small quantity of an intensely poisonous alkaloid, similar in many cases to the alkaloids strychnine, aconitine, etc. These ptomaines (putrid poisons) which in disease are formed inside the veins, intestines, etc., of the afflicted animal, are absorbed into the system, producing pain and death, in precisely the same manner as do strychnine, atropine and other medicinal poisons. The biologist has as yet isolated only a few of these endo-animal (pardon the term), poisons: they can be obtained by cultivation and multiplication of one single germ in *Alkaline Beef tea*, *Gelatine*, *Milk* etc.; Crystals of the putrid poison of Tetanine, of Typhotoxine and of a few others have been obtained from the cultivated solutions by chemical extraction; these poison crystals closely resemble the vegetable alkaloids, strychnine etc. in appearance and properties; they are in their crystalline condition of course free from any living germ. Solutions of them injected under the skin of Guinea pigs etc., have produced the symptoms characteristic of Tetanus, and Typhoid fever. In other instances crystals of the poison have been extracted from the bodies of men and animals who have died from tetanus, anthrax, etc.

Science as yet is only on the entrance to an enormous field of physiological research, which requires the aid of the microscopist and the chemist, submitted to the final proof of the Vivisectionist. In England a set of foolish sentimentalists have practically stopped the operations of the latter; futurity will have to pay to France, Germany, Austria and America, the homage due to the remediers of the greatest evils which afflict not only mankind, but the whole of domestic animal life.

The ptomaine theory, which although not universally accepted has never been confuted, is as yet in the embryotic stage of

knowledge. Are cholera and other diseases contained in the air? is a constantly asked question: Certain leucomaines have been proved to exist in respired air and have proved poisonous to birds and animals after freeing the air from carbonic acid. Does then the atmosphere of the close, ill ventilated cholera den re-produce disease by the multiplication of wind-borne germs, or by the presence of a specific gaseous poison? These questions scientists cannot answer, this much is practically known: 1. That sewer gas has claimed thousands of victims. The Prince of Wales' illness at Lord Londesborough's house twenty years ago was only one instance. 2. That the untrapped water closet of modern civilization is as much a source of enteric fever as is the drinking of germ-laden water. Last autumn St. John suffered severely from typhoid fever; to the water supply the cause was attributed. I have a suspicion, however, that St. John has not yet recognized (as have the English) that when improperly fixed, the modern water closet is a reservoir of sewer gas dangerous to health, whereas if properly arranged it constitutes a household blessing. The solution of the sewer gas problem is involved in a knowledge to be gained at some future day from the difficult study of gaseous leucomaines. With all our knowledge we know next to nothing with any positive degree of certainty of the actual methods by which diseases are spread; our experiments are not positive proof; they merely serve to confirm inferences made from analysis.

What is the best preventive to take when cholera is about? a score of readers will probably ask. What is the prophylactic used in India and the east where the disease is so frequent? Europeans seldom trouble to take any precautionary measures beyond boiling drinking water. The Anglo-Indian, it must not be forgotten, constitutes by far the most aristocratic society to be found outside of Europe. There are

no poor Europeans in India, the only residents of small financial means are the soldiers, and these are housed and fed by the government. Some few female domestic servants are to be met with here and there. The manners and habits (especially at the dinner table) seen on Cunard's line of steamers would appear strange (to use a mild expression) amongst the well bred, highly educated and refined travellers who constitute the bulk of the passengers on the magnificent P. and O. (Peninsular & Oriental) liners. Anglo-Indians live in good, well-ventilated houses or bungalows, they take their pleasure, their minds are well occupied, they regard cholera as a disease prevalent amongst the dirty, insanitary natives. They are not frightened of it to the panic extent which prevails amongst the inhabitants of Europe and America; this is their chief safeguard. Alarmists are to be found in all communities; both in the east and in the west all sorts of preventives have been tried; ancient, superstitious ideas and beliefs have handed down to us a host of ridiculous nostrums and absurdities. The preventive usually adopted in India is diluted sulphuric or hydrochloric acid added to the drinkables. It seems to me that there is a strong scientific argument in favor of a faint acidification of the stomach. The biologist who 'cultivates' typhoid and cholera germs in the bacteriological laboratory, uses gelatine or beef tea solutions *made alkaline with soda*, to propagate the growth of the germs; he avoids an acid solution, because experiment has told him that acidification of the growing medium, retards or paralyzes the free growth of the organism. Some fungi, on the other hand, live better in an acid medium. Brewers' yeast, for instance, will hardly re-produce itself in an alkaline wort. Malt and sound beer, as also wine are always faintly acid. The use of dilute acid may be of such importance to the community that I prefer to corroborate my own statement by those of other parties. In the New York

Herald, Sir Edwin Arnold, author of 'The Light of Asia,' a traveller with extensive Chinese and Japanese experience, has mentioned that dilute hydrochloric acid (pyrites of salts) was the preventive usually employed. The following from the same paper of Sept. 17th, is further corroborative from medical experience:

Dr. Reilly has great faith in sulphuric acid as a preventive of Asiatic cholera, having seen it used with the best of effects during epidemics.

In speaking of this preventive Dr. Reilly said: "In 1874, together with Surgeon Ely McClellan, U. S. A., now on duty at General Miles' headquarters at Chicago, I was detailed (being then surgeon of the marine hospital service under Supervising Surgeon Woodward) to investigate and report on the cholera epidemic of 1873. Soon after beginning my investigation I learned of the experience of Dr. Curtin, Resident Physician of the insane department of the Philadelphia Hospital. During the epidemic of 1866 the disease was introduced into the almshouse and hospital, but was finally eradicated from all but three of the seven female wards.

"Every means was tried to banish the disease, such as ventilating and cleansing the wards, spreading disinfectants, scattering the patients, attention to diet, &c., but without effect. Day after day new cases continued to develop in these three wards. In the latter part of August, at a time when from two to five new cases were developing every day, Dr. Curtin's attention was called to an article in a British newspaper, in which the writer said that the workmen and their families connected with a large factory had been treated with sulphuric acid as a prophylactic during an epidemic of cholera, with the result that not a single man or any of the families were attacked, while around them death took its own course.

#### KILLED THE EPIDEMIC.

"Catching at this as a drowning man at a straw, Dr. Curtin, the afternoon of August 25, began the administration of sulphuric acid lemonade in the infected wards, and it was continued without intermission until August 31. After twelve hours from the time when the acid was first given only one case occurred, and that in the person of one of the insane patients, who refused to swallow the mixture. The acid was discontinued August 31, and forty-eight hours later two new cases occurred, both of which proved fatal. The use of the prophylactic was then resumed and continued until the close of the epidemic, and no new cases occurred among the inmates, although cholera patients continued to be admitted from the city until November 1."

Any attempt to kill the germs inside of a human being's stomach would inevitably kill the man before the germ. Life in the single cell of the germ is far more tenacious than in that aggregation of cells called man. The preventive seems to act as an obstacle to the multiplication of the disease germ,

net as an antiseptic to effectually destroy it. The addition of diluted sulphuric or hydrochloric acid forms respectively glaubers salts and common salt (chloride of sodium) within the stomach.

To some extent the foregoing theory offers an explanation of the greater susceptibility of the temperance people to epidemics. Although they may live longer in years, it is a matter of frequent comment that an undue proportion of their numbers fall victims to zymotic diseases. This may possibly be due, not to the circumstance of their refusing alcohol, but because the drinkables consumed by them are nearly all alkaline, thus affording an encouragement to the growth of disease and especially of the typhoid germs. If there is solid foundation for this acid theory, the alarmist who desires to regulate his dietary can do so as follows:

1. Avoid the use of bicarbonate of soda in cooking.

2. Boil and cool all drinking water, especially that from shallow wells.

3. Drink naturally acid drinks only, viz: ale, beer and wine. Temperance people, who cannot drink these, can use the temperance wines, many of which consist of unfermented grape juice and are consequently acid.

4. Add a few drops of very dilute sulphuric acid to tea or coffee. (Sir E. Arnold's recommendation).

5. Avoid milk with an unknown history. There is no better germ cultivator than is milk; its most frequent article of adulteration is water, often impure. The very conditions necessary to disease cultivation exist in contaminated, non-refrigerated milk held over in summer weather.

Years before the germ theory was discovered, cholera was believed to result from eating sour fruit. A few school boys who stole unripe apples used occasionally to get a good something to be remembered for a long time stomachache. Sour, indigestible fruit does produce pain in the stomach, but it never yet has been attended with the rice

water evacuations of choleraic diarrhoea and Asiatic cholera, or with the comma bacillus of the latter disease, discovered by Dr. Koch.

The preventitive virus of Drs. Haffkine and Pasteur consists of inoculation with a modified (weakened) cholera bacillus, with the object of giving a milder form of disease and so procuring immunity from the greater disease, similar to vaccination. The success of the process remains to be proved; but whereas smallpox, scarlet fever, yellow fever, etc., themselves give an immunity against a second attack, with cholera an attack and recovery has been succeeded by a second attack. Pasteur's inoculation virus is a "cultivation" from cholera germs which have been enfeebled by heating them to 120° (about).

In India it is sometimes alleged that persons liable to diarrhoea are also liable to contract cholera.

The acid theory is given for what it is worth; of all the numerous preventitives, it seems to be the only one with a really scientific basis. Personally I have never troubled about preventitives beyond smoking cigars at the bedsides of the natives, a common eastern custom. Indirectly I carried out the acid theory, since from the nature of my business I always had the command of ale (an acid drink) at my disposal.

Fear and panic add largely to the danger of infection; medical writers agree that the emotion affects the nervous system and so enhances the risk. In India the military authorities regard panic amongst the soldiers with dread, the latter are a class of men who (unlike the civilians) have much unoccupied time, instances of where one-third of a whole regiment have been swept away are known. In such terrible havoc fear has doubtless been a predominating factor. As a matter of fact, dysentery is far more to be dreaded; where one European dies of cholera in India, from ten to twenty die of dysentery.

What was the course of treatment which the Indian army surgeon confided to you, will be asked. I must decline to say. The St. John medical profession will I am certain sustain me in withholding the name and treatment of a powerful drug, which, should an outbreak next year occur here, might be dangerously used in times of panic. I do not find mention of it in Dr. Oler's work on medicine. The medical profession will recognize it under its chemical symbol of  $\text{CCl}_3$ ,  $\text{CH}(\text{OH})_2$ —There was another treatment recommended to me by my Anglo-Indian friends. 'If you ever get a touch of it,' said they, 'you do such and such,' and here they indicated what I may call a vulgar method—Brown at Delhi was cured that way, said one, so was Smith at Lucknow, said another. I did not pay much attention to what I regarded as a piece of ignorant folly—judge of my astonishment, then, when years afterwards, on perusing the chapter "methods of extracting ptomaines" in Vaughan and Novy's work before mentioned, I find that what I have called the vulgar process is in part used by Brieger, the greatest authority on the ptomaines, by Stans-Otto, by Selmi and other biologists in the extraction of these animal poisons from cultivations and from dead bodies.

In concluding this chapter, I should add that it has been necessarily written with only an approximation to accuracy in order to avoid entering into minute, complicated details, too scientific for the general reader. It has, however, been carefully considered before I ventured to place it before the public. The recent cholera attack in scientific Europe cannot fail to promote a better knowledge of the nature of the disease, as well as of its treatment. There already seems reason to believe that by a comparatively new process of surgical (not medical) treatment, that relief, if not recovery, has been obtained in a disease which, rightly or wrongly, ranks as one of the most terrible which afflicts mankind.

[The process referred to consists of 'irriga-

tion of the bowels,' also called *enteroclysis*. The ptomaines and bacilli are ejected from the intestinal tract by copious washing with water mixed with either soap or laudanum.]

---

Cholera infantum, the summer disease so prevalent amongst infants, does not legitimately form part of my subject, nor does it of my experiences—a single man who has never yet summoned up sufficient courage to face the ordeal of marriage, is not usually much of an authority on babies—nevertheless, as I have explained the ptomaine theory and recollecting that cholera infantum has already killed more children in St. John than cholera Asiatica ever has or ever will kill, I add a few remarks, perhaps of more absolutely practical value than are contained in the foregoing chapters.

Milk turns acid by the lactic acid fermentation; although unpleasant to the taste, sour milk is harmless. There is, however, another fermentation of milk which develops a strange, bitter, unpleasant flavor; this is the deadly tyrotoxine fermentation. Milk exposed for a few hours (without removal of its natural heat by cooling) in old decayed wooden dairies, and especially where the slush and washings are allowed to collect and putrify beneath floors, etc., in summer weather is especially liable to contain this virulent ptomaine. Hot water destroys the poison. Poisonous milk added to hot tea or coffee is harmless, the tyrotoxine is rendered inert by the heat. On the other hand the same milk if consumed raw may throw a score of people into hours of agony.

Many adults have died after partaking of poisonous milk, ice cream and sometimes cheese. The mortality amongst infants is alarming. The dirty tube of the

Infant's feeding bottle is often a mass of the tyrotoxine ferment; good milk, slightly warmed, is placed in the bottle, baby sucks the tube and gets the milk mixed with the ferment germ, in an analogous manner to the brewer, who purposely 'sets' his wort with yeast to commence the alcoholic fermentation. The poison can be formed inside the child's stomach, or it may be introduced from milk, itself impure. Symptoms of gastro-enteritis commence, the child recovers or the child dies. If the careless mother had only placed boiling water *inside the tube* and then immersed the full tube in boiling water for a few minutes, the ferment would have been destroyed and the child's life saved.

---

After a return from a six weeks' tour at various seaside resorts, I became subject at

night to periods of insomnia; during these spells of wearisomeness these articles were commenced, at first to occupy the mind. They were written to show the needlessness of a scare in a well ordered community. They could further be made agreeable reading, by detailing the troubles of a manufacturer with native laborers in the east, a subject perhaps, never before written upon. They eventually grew so long, that they became tiresome, two chapters have consequently been put into the fire. The personal narrative style of literature renders the egotistical pronouns "I" and "my" a matter of necessity. It has been the author's lot to reside in Europe, Asia, Africa, America and Australia; to have seen more of this planet than has the average of man, but prominent amongst the wonders of nature, the industry of man, and the works of art, stands vividly in his recollections the picturesquely ancient and simple life of the inhabitants of the East.

